

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (*Currently Amended*) A method for detecting an abnormality of an optical module, wherein the method comprises:
 - detecting a value of a current flowing through a specified spot of the optical module;
 - ~~storing~~ holding the detected value of the current in a memory;
 - detecting a value of a current flowing through the specified spot at every predetermined time;
 - obtaining a differential value between the value of the current recently stored ~~held~~ in the memory and the value of the newly detected current, and storing the newly detected current in the memory; and
 - generating alarm signal ~~indicating a necessity of preventive maintenance~~ when the obtained differential value exceeds a predetermined threshold value, ~~wherein the value of the current flowing through the specified spot is a value of a current in a power line for supplying power to the optical module including a laser diode driver.~~

2. (*Cancelled*).

3. (*Currently Amended*) The method for detecting an abnormality of an optical module according to claim 1, wherein the value of the current flowing through the specified spot is a monitor current detected by a current detector ~~in the optical module~~.

4. (*Cancelled*).

5. (*Previously Presented*) The method for detecting an abnormality of an optical module according to claim 1, wherein the value of the current held in the memory is a value of a current flowing through the specified spot at the start time of the use of the optical module.

6. (*Original*) The method for detecting an abnormality of an optical module according to claim 1, wherein the value of the current held in the memory is overwritten to the value of the current which is newly detected in the specified spot when a differential value is obtained.

7. (*Currently Amended*) The method for detecting an abnormality of an optical module according to claim 1, wherein the detected value of the current flowing through the specified spot ~~of the optical module~~ is an average value of currents for the predetermined time.

8. (*Currently Amended*) A method for detecting an abnormality of an optical module, wherein the method comprises:

detecting a value of a current flowing through a specified spot of the optical module;
~~storing~~ holding the detected value of the current in a memory;
newly detecting a value of a current flowing through the specified spot at every predetermined time;
obtaining a ratio of a differential value between the value of the current recently stored ~~held~~ in the memory and the value of the newly detected current to the value of the current held in the memory, and storing the newly detected current in the memory; and
generating alarm signal when the obtained ratio exceeds a predetermined threshold value;
~~wherein the value of the current flowing through the specified spot is a value of a current in a power line for supplying power to the optical module including a laser diode driver.~~

9. (*Currently Amended*) An apparatus for detecting an abnormality of an optical module comprising:

a current detector which detects a value of a current flowing through a specified spot of said optical module at every predetermined time;
a memory which stores ~~holds~~ the value of the current detected by said current detector;
an arithmetic circuit which obtains a differential value between the value of the current recently stored ~~held~~ in said memory and a value of a current newly detected by said current detector; and

an alarm circuit which generates alarm signal when the differential value obtained by said arithmetic circuit exceeds a predetermined threshold value, wherein the newly detected current value is stored in the memory~~value of the current flowing through the specified spot is a value of a current in a power line for supplying power to said optical module.~~

10-11. (*Cancelled*).

12. (*Original*) The apparatus for detecting an abnormality of an optical module according to claim 9, wherein the value of the current held in said memory is a value of a current flowing through the specified spot, the value of the current being detected by said current detector at the start time of the use of said optical module.

13. (*Original*) The apparatus for detecting an abnormality of an optical module according to claim 9, wherein said current detector detects a value of a current flowing through the specified spot at every predetermined time, and sends out the detected value of the current to said memory.

14. (*Original*) The apparatus for detecting an abnormality of an optical module according to claim 9,

wherein said memory includes a first memory and a second memory,

said first memory receives and holds a value of a current from said current detector, and sends out the value of the current held until then to said second memory,

said second memory holds the value of the current sent from said first memory, and

said arithmetic circuit obtains a differential value between the values of the currents held in said first memory and said second memory.

15. (*Original*) The apparatus for detecting an abnormality of an optical module according to claim 9, wherein said current detector detects an average value of currents flowing through the specified spot for a predetermined time as a value of a current.

16. (*Currently Amended*) An apparatus for detecting an abnormality of an optical module comprising:

a current detector which detects a value of a current flowing through a specified spot of said optical module at every predetermined time;

a memory which stores ~~holds~~ the ~~past~~ value of the current detected by said current detector;

AMENDMENT UNDER 37 C.F.R. § 1.114(c)
U.S. APPLN. NO. 09/938,585
ATTORNEY DOCKET NO. Q65648

an arithmetic means which obtains a ratio of a differential value between the current value recently stored ~~said past value held in~~ said memory and a value of a current newly detected ~~at present~~ by said current detector; and

alarming means which generates alarm signal when the ratio obtained by said arithmetic means exceeds a predetermined threshold value, wherein the newly detected current is stored in the memory ~~value of the current flowing through the specified spot is a value of a current in a power line for supplying power to said optical module.~~